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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/521,845	03/09/2000	Janos Szanyi	1434A2	3769
24959	7590	01/02/2004	EXAMINER	
PPG INDUSTRIES INC INTELLECTUAL PROPERTY DEPT ONE PPG PLACE PITTSBURGH, PA 15272			PIZIALI, ANDREW T	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/521,845

Applicant(s)

SZANYI ET AL.

Examiner

Andrew T Piziali

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6,8-11,14,16-18,21,23,26,27,30,32-45,48,49 and 51-66 is/are pending in the application.
- 4a) Of the above claim(s) 63 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3,5,6,8-11,14,16-18,21,23,26,27,30,32-41,45,49,51-53 and 58-60 is/are allowed.
- 6) ☒ Claim(s) 42-44,48,54-57,61,62 and 64-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Newly submitted claim 63 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: In originally filed claim 45 the applicant claimed an article comprising a substrate, an antimony doped tin oxide layer, and a fluorine doped tin oxide layer. In current claim 63 the applicant claims an article comprising a substrate, an antimony doped tin oxide layer, and an indium doped tin oxide layer.

Since applicant has received an action on the merits for the originally presented invention (species), this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 63 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Objections***

2. Claim 61 is objected to because of the following informality: In line 9, it appears that “multiplayer” should read “multilayer.” Appropriate correction is required.
3. Claim 66 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim, to place the claim in proper dependent form, or rewrite the claim in independent form. Claim 66 further limits the “increasing step” of claim 61, but the increasing step limitation of claim 61 fails to itself further limit claim 61. See the below 35 U.S.C. 112 second paragraph rejections.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 1775

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 42-44, 54-57, 62 and 64-65 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

In claim 42, the applicant claims substantially no second metal oxide in the first coating region and substantially no first metal oxide in the third coating region. In claim 54, the applicant claims that the first coating region is substantially free of the second dopant and that the third region is substantially free of the first dopant. The applicant claims support for these amendments in the originally filed claims, but the examiner finds no specific support in the originally filed claims or in the originally filed specification.

Any negative limitation or exclusionary proviso must have basis in the original disclosure. See *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff'd mem.*, 738 F.2d 453 (Fed. Cir. 1984). The mere absence of a positive recitation is not basis for an exclusion. See MPEP 2173.05(i).

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 44, 61-62 and 66 are rejected under 35 U.S.C. 112, second paragraph, as being

Art Unit: 1775

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The relationship claimed between the thickness of the first layer and the thickness of the second layer is unclear.

Regarding the 35 U.S.C. 112 rejection of claims 44 and 62, the applicant has failed to clarify how the thicknesses of first and second layers of the article can increase or decrease. The applicant appears to be claiming, in an article claim, a method of optimizing the optical properties of an article by varying the thicknesses of the layers to determine the desired total solar energy transmission and visible light transmission. The limitation, as currently written, adds no patentable weight to the current article claim.

Regarding the 35 U.S.C. 112 rejection of claims 61 and 66, the applicant has failed to clarify how the thicknesses of first and second layers of the article can be increased or decreased. The applicant appears to be claiming, in a claim drawn to a method of forming an article, a method of optimizing the optical properties of an article by varying the thicknesses of the layers to determine the desired total solar energy transmission and visible light transmission. The limitation, as currently written, adds no patentable weight to the current claim drawn to a method of forming an article.

Correction is required.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

Art Unit: 1775

has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claim 48 is rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,218,018 to McKown et al. (hereinafter referred to as McKown).

McKown discloses numerous articles comprising a glass substrate, a layer of tin oxide doped with fluorine, and a layer of tin oxide doped with antimony (see entire document).

Although McKown fails to specifically teach the refractive indices of the layers, considering that the current applicant discloses that antimony doped tin oxide has a lower refractive index than fluorine doped tin oxide (see specification page 33, lines 7-9), absent a showing to the contrary, it appears that the antimony doped tin oxide layer of McKown has a lower refractive index than the fluorine doped tin oxide layer of McKown.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to

Art Unit: 1775

obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 61 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,218,018 to McKown (as applied to the above claim) in view of USPN 5,356,718 to Athey et al. (hereinafter referred to as Athey).

McKown discloses a method of forming a coated article comprising the steps of providing a substrate and depositing a multilayer comprising an antimony doped tin oxide layer having a thickness of 700 to about 3000 Å and a fluorine doped tin oxide layer having a thickness of about 0 to about 3000 Å (see entire document). McKown discloses that a color suppression layer may be deposited on the substrate to achieve a neutral appearance (column 5, lines 14-21).

McKown does not specifically mention a color suppression layer comprising a gradient layer, but Athey discloses that it is known in the art to deposit a color suppression layer, comprising a gradient layer, on a transparent substrate to suppress color effects commonly referred to as iridescence (column 1, lines 17-53). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a gradient color suppression

Art Unit: 1775

layer, as disclosed by Athey, as the color suppression layer of McKown, because such a gradient layer suppresses undesirable iridescence.

Athey does not specifically mention the thickness of the color suppression layer, but McKown discloses that a color suppression layer may have a thickness between 50 to 3000A (column 2, lines 19-38). It would have been obvious to one having ordinary skill in the art at the time the invention was made to deposit the color suppression layer at a thickness of about 50 to about 3000 A, as taught by McKown, because it is understood by one of ordinary skill in the art that the layer thicknesses determine properties such as transmittance, emissivity, and color and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

*Allowable Subject Matter*

12. Claims 1-3, 5-6, 8-11, 14, 16-18, 21, 23, 26-27, 30, 32-41, 45, 49, 51-53 and 58-60 are allowed.

13. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1-3, 5-6, 8-11, 14, 16-18, 21, 23, 26-27, 30, 32-41, 49, 51-53 and 58-60, the prior art fails to teach or suggest a coating comprising at least one breaker layer comprising a metal oxide having at least phosphorous, or at least one breaker layer comprising amorphous tin oxide and silica or phosphorous, between the currently claimed first and/or second metal oxide layers.

Regarding claim 45, the closest prior art is USPN 6,218,018 to McKown, but McKown fails to teach or suggest the unexpected results of using the currently claimed antimony doped tin oxide strata thicknesses (see page 38, lines 1-25, of the current specification).



*Response to Arguments*

14. Applicant's arguments filed 10/3/03 have been fully considered but they are not persuasive.

Regarding the 35 U.S.C. 112 rejection of claim 44, the applicant has failed to clarify how the thicknesses of first and second layers of the article can increase or decrease. The applicant appears to be claiming, in an article claim, a method of optimizing the optical properties of an article by varying the thicknesses of the layers to determine the desired total solar energy transmission and visible light transmission. The limitation, as currently written, adds no patentable weight to the current article claim.

Regarding the 35 U.S.C. 112 rejection of claim 61, the applicant has failed to clarify how the thicknesses of first and second layers of the article can be increased or decreased. The applicant appears to be claiming, in a claim drawn to a method of forming an article, a method of optimizing the optical properties of an article by varying the thicknesses of the layers to determine the desired total solar energy transmission and visible light transmission. The limitation, as currently written, adds no patentable weight to the current claim drawn to a method of forming an article.

Regarding claim 48, the applicant asserts that McKown fails to teach or suggest that the disclosed antimony doped tin oxide layer has a lower refractive index than the disclosed fluorine doped tin oxide layer. The examiner respectfully disagrees. Although McKown fails to specifically teach the refractive indices of the layers, considering that the current applicant discloses that antimony doped tin oxide has a lower refractive index than fluorine doped tin oxide (see specification page 33, lines 7-9), absent a showing to the contrary, it appears that the

Art Unit: 1775

antimony doped tin oxide layer of McKown has a lower refractive index than the fluorine doped tin oxide layer of McKown.

*Conclusion*

15. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

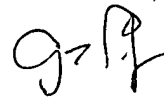
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Piziali whose telephone number is (703) 306-0145. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 1775

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

atp



ANDREW T. PIZIALI  
PATENT EXAMINER



DEBORAH JONES  
SUPERVISORY PATENT EXAMINER